



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/638,094	08/07/2003	Keith M. Borst	128834-2	3383
23413	7590	11/15/2004	EXAMINER	
CANTOR COLBURN, LLP 55 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002			XU, LING X	
			ART UNIT	PAPER NUMBER
			1775	
DATE MAILED: 11/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/638,094	BORST ET AL. NA	
	Examiner	Art Unit	
	Ling X. Xu	1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/10/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15, drawn to a data storage medium, classified in class 428, subclass 626.
 - II. Claim 16, drawn to a method, classified in class 427, subclass 162.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the process as claimed can be used to make other and materially different product such as a mirror.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. J. Michael Buchanan on 8/18/2004 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-15. Affirmation of this election must be made by applicant in replying to this Office action. Claim 16 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-15 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-17 of copending Application No. 10/638,100. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims 1-17 of the cited copending application recites the reflective article comprising the same structure as the data storage medium recited in claims 1-15 of the present application including a substrate, a reflective metal layer and a haze-prevention layer. The data storage medium claimed in the present application is considered a reflective article.

Art Unit: 1775

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear which surface of the data storage medium has the reflectivity of at least 80%. It is also unclear if the surface reflects at least 80% of the specific light or any incoming light.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 4-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al. (US 4,638,335).

With respect to claims 1-2, 7-12 and 15, Smith discloses an information recording/storage medium comprising a substrate, a thin light absorbing recording layer, and a reflective layer (col. 3, lines 55-67).

Smith also discloses that the substrate is greater than 1mm and is made of amorphous plastics such as polysulfones or polycarbonates (col. 7, lines 1-10). Accordingly, the substrate comprises the same polymer material as claimed. Therefore, it would also have the same properties as the claimed substrate recited in claim 1.

The thin light absorbing recording layer has thickness of 25-200 angstroms (2-20 nm) (col. 7, lines 50-67) and is made of metal such as chromium, titanium, copper etc.(col. 7,lines 55-67)). The thin light absorbing recording layer comprises the same metal as the claimed haze-prevention layer. Therefore, it would also have the same functions and properties as the claimed haze-prevention recited in claim 1.

The reflective layer has thickness of about 100 angstroms (10 nm) and is made of metal such as aluminum, silver or gold etc.(col. 8, lines 35-50).

With respect to claims 4-6, Smith discloses the substrate has a thickness of greater than 1 mm and is substantially free of inorganic filler (the substrate does not comprise filler).

With respect to claim 13, Smith discloses a protective layer may be applied on the reflective layer (col. 9, lines 10-30) and is essentially transparent (col. 8, lines 40-60).

With respect to claim 14, as stated above, Smith discloses the information storage medium comprising the same structure as the claimed data storage medium, Smith's information storage medium would also have the same reflectivity as claimed.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 1775

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2 and 4-14 are rejected under 35 U.S.C. 102(e) as being anticipated by Nee (US 2002/0034603).

With respect to claims 1-2 and 7-12, Nee discloses optical storage media comprising a substrate and two reflective layers (page 4, paragraph [0045]).

Nee also discloses that the substrate is about 1.2mm thick and is made of polycarbonate (page 5, paragraph [0049]). Accordingly, the substrate comprises the same polymer material as claimed. Therefore, it would also have the same properties as the claimed substrate recited in claim 1.

The reflective layer may have thickness of 8-60 nm (page 4, paragraph [0069]) and is made of silver alloy including chromium (page 6, paragraph [0057]).

As recited in claims 7 and 10, the claimed reflective metal layer and the haze-prevention layer both made of metals and may comprise the same metal or metal alloy.

The first reflective layer disclosed in Nee is located between the substrate and the second reflective layer. As stated above, the first reflective layer may comprise chromium, which is the same material as the claimed haze-prevention layer, therefore, it would also have the same functions and properties as the claimed haze-prevention recited in claim 1.

With respect to claims 4-6, Nee discloses the substrate has a thickness of 1.2 mm and is substantially free of inorganic filler (the substrate does not comprise filler).

Art Unit: 1775

With respect to claim 13, Nee discloses a protective layer may be applied on the reflective layers (page 5, paragraph [0049]). The protective layer is made of acrylic resin, which is a light transparent polymer.

With respect to claim 14, as stated above, Nee discloses the data storage medium comprising the same structure as the claimed data storage medium, Nee's data storage medium would also have a reflectivity as claimed.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied to claim 1 above, and further in view of Narayan et al (US 4,937,691).

As stated above, Smith discloses the information storage medium comprising the same structure as recited in claim 1.

Smith does not disclose the substrate is made of polymers recited in claim 3.

Narayan teaches the use of amorphous plastic such as polyetherimide as base plate (substrate) for data recording disk (col. 2, lines 1-20). Narayan also teaches that the amorphous polymer has rigidity and is excellent in heat resistance and dimensional stability (col. 2, lines 15-25).

Therefore, it would have been obvious to one of ordinary skill in the art to use the amorphous plastic including polyetherimide as the substrate for Smith's information storage medium because these polymers have excellent property in heat resistance and dimensional stability, as taught by Narayan.

7. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nee (US 2002/0034603) in view of Narayan et al (US 4,937,691) and Smith et al (US 4,638,35)

With respect to claims 1-2 and 7-12, Nee discloses optical storage media comprising a substrate and two reflective layers (page 4, paragraph [0045]).

Nee also discloses that the substrate is about 1.2mm thick and is made of polycarbonate (page 5, paragraph [0049]). Accordingly, the substrate comprises the same polymer material as claimed. Therefore, it would also have the same properties as the claimed substrate recited in claim 1.

The reflective layer may have thickness of 8-60 nm (page 4, paragraph [0069]) and is made of silver alloy including chromium (page 6, paragraph [0057]).

As recited in claims 7 and 10, the claimed reflective metal layer and the haze-prevention layer both made of metals and may comprise the same metal or metal alloy.

The first reflective layer disclosed in Nee is located between the substrate and the second reflective layer. As stated above, the first reflective layer may comprise chromium, which is the same material as the claimed haze-prevention layer, therefore, it would also have the same functions and properties as the claimed haze-prevention recited in claim 1.

With respect to claims 4-6, Nee discloses the substrate has a thickness of 1.2 mm and is substantially free of inorganic filler (the substrate does not comprise filler).

With respect to claim 13, Nee discloses a protective layer may be applied on the reflective layers (page 5, paragraph [0049]). The protective layer is made of acrylic resin, which is a light transparent polymer.

With respect to claim 14, as stated above, Nee discloses the data storage medium comprising the same structure as the claimed data storage medium, Nee's data storage medium would also have a reflectivity as claimed.

Nee does not disclose the substrate is made of polymers recited in claim 3 and 15. However, using these polymers as substrate for data storage medium is known in the art.

Narayan teaches the use of amorphous plastic such as polyetherimide as base plate (substrate) for data recording/storage disk (col. 2, lines 1-20). Narayan also teaches that the polymer has rigidity and is excellent in heat resistance and dimensional stability (col. 2, lines 15-25).

Smith teaches the use of amorphous plastics such as polysulfones or polycarbonates (col. 7, lines 1-10) for data storage substrate. Smith also teaches that these polymer has high optical quality and transparent to the recording and reading wavelength (col. 6, lines 60-67).

Therefore, it would have been obvious to one of ordinary skill in the art to use the amorphous plastic including polyetherimide and polysulfones as the substrate for Nee's optical storage medium because these polymers have high optical property and excellent in heat resistance and dimensional stability, as taught by Narayan and Smith.

Art Unit: 1775

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling X. Xu whose telephone number is 571-272-1546. The examiner can normally be reached on 8:00 - 4:30 Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah D. Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ling X. Xu
Examiner
Art Unit 1775